FIG. 1

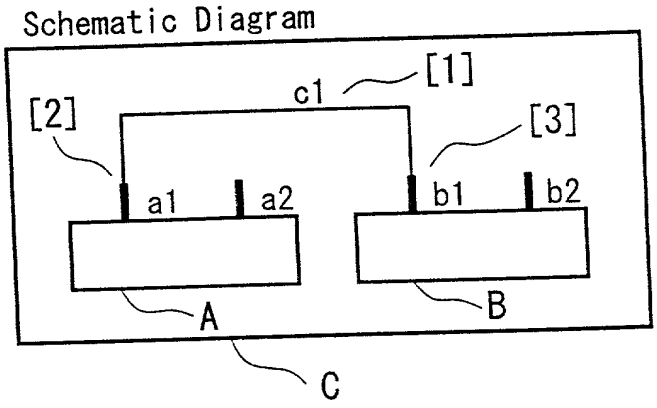


FIG. 2

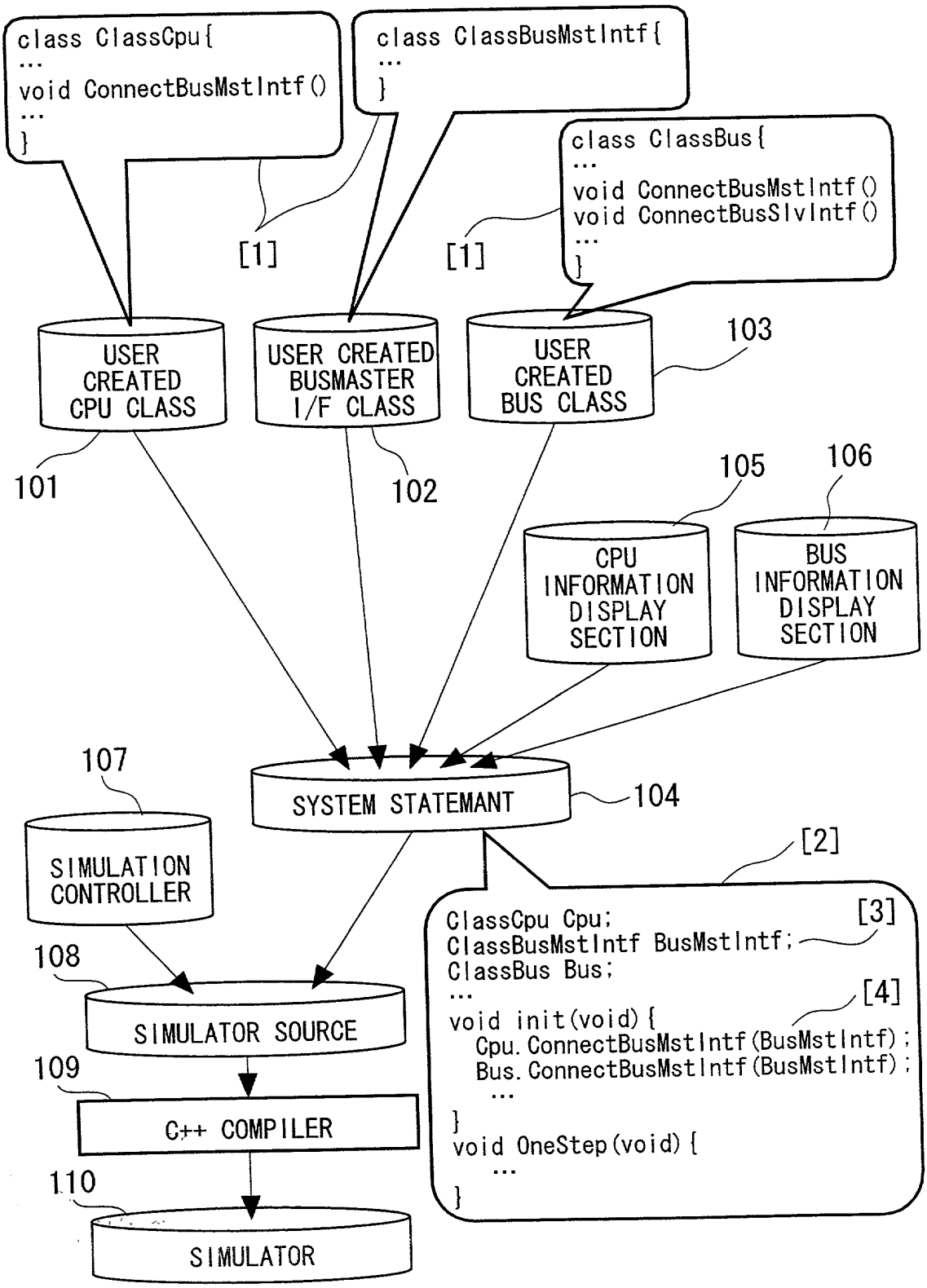

class ClassCpu{
...
void ConnectBusMstIntf()
...
}
class ClassBusMstIntf{
...
}
class ClassBus{
...
void ConnectBusMstIntf()
void ConnectBusSlvIntf()
...
}
[1]
[1]
USER CREATED CPU CLASS
USER CREATED BUSMASTER I/F CLASS
USER CREATED BUS CLASS
103
101
102
105
106
CPU INFORMATION DISPLAY SECTION
BUS INFORMATION DISPLAY SECTION
107
SYSTEM STATEMANT
104
[2]
SIMULATION CONTROLLER
ClassCpu Cpu;
ClassBusMstIntf BusMstIntf;
[3]
ClassBus Bus;
...
[4]
void init(void){
Cpu.ConnectBusMstIntf(BusMstIntf);
Bus.ConnectBusMstIntf(BusMstIntf);
...
}
void OneStep(void){
...
}
108
SIMULATOR SOURCE
109
C++ COMPILER
110
SIMULATOR

FIG. 3

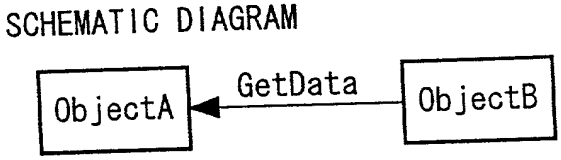


FIG. 4

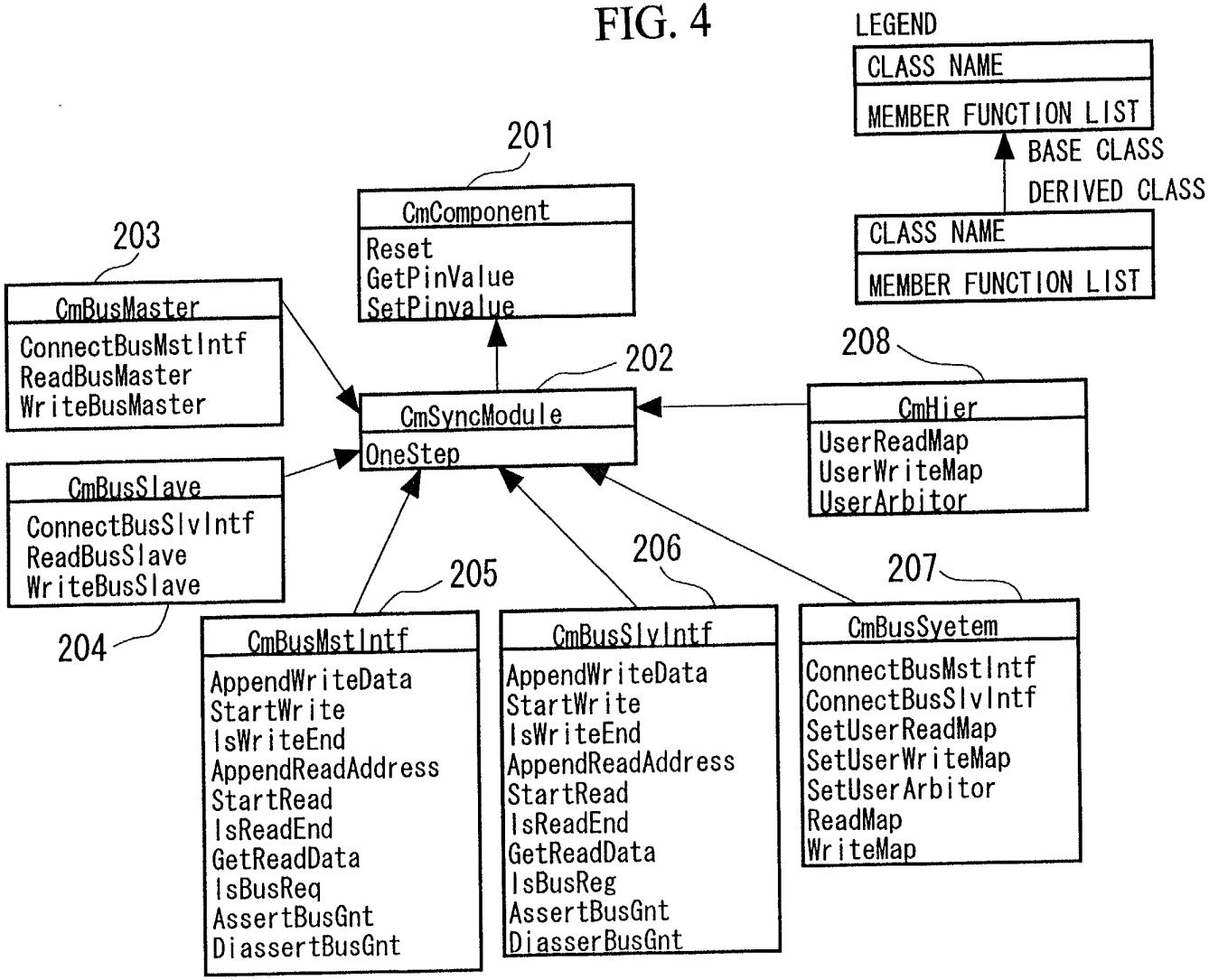

LEGEND
CLASS NAME
MEMBER FUNCTION LIST
BASE CLASS
DERIVED CLASS
CLASS NAME
MEMBER FUNCTION LIST
201
CmComponent
Reset
GetPinValue
SetPinvalue
203
CmBusMaster
ConnectBusMstIntf
ReadBusMaster
WriteBusMaster
202
CmSyncModule
OneStep
208
CmHier
UserReadMap
UserWriteMap
UserArbitor
CmBusSlave
ConnectBusSlvIntf
ReadBusSlave
WriteBusSlave
204
205
CmBusMstIntf
AppendWriteData
StartWrite
IsWriteEnd
AppendReadAddress
StartRead
IsReadEnd
GetReadData
IsBusReq
AssertBusGnt
DiassertBusGnt
206
CmBusSlvIntf
AppendWriteData
StartWrite
IsWriteEnd
AppendReadAddress
StartRead
IsReadEnd
GetReadData
IsBusReg
AssertBusGnt
DiasserBusGnt
207
CmBusSyetem
ConnectBusMstIntf
ConnectBusSlvIntf
SetUserReadMap
SetUserWriteMap
SetUserArbitor
ReadMap
WriteMap

FIG. 5

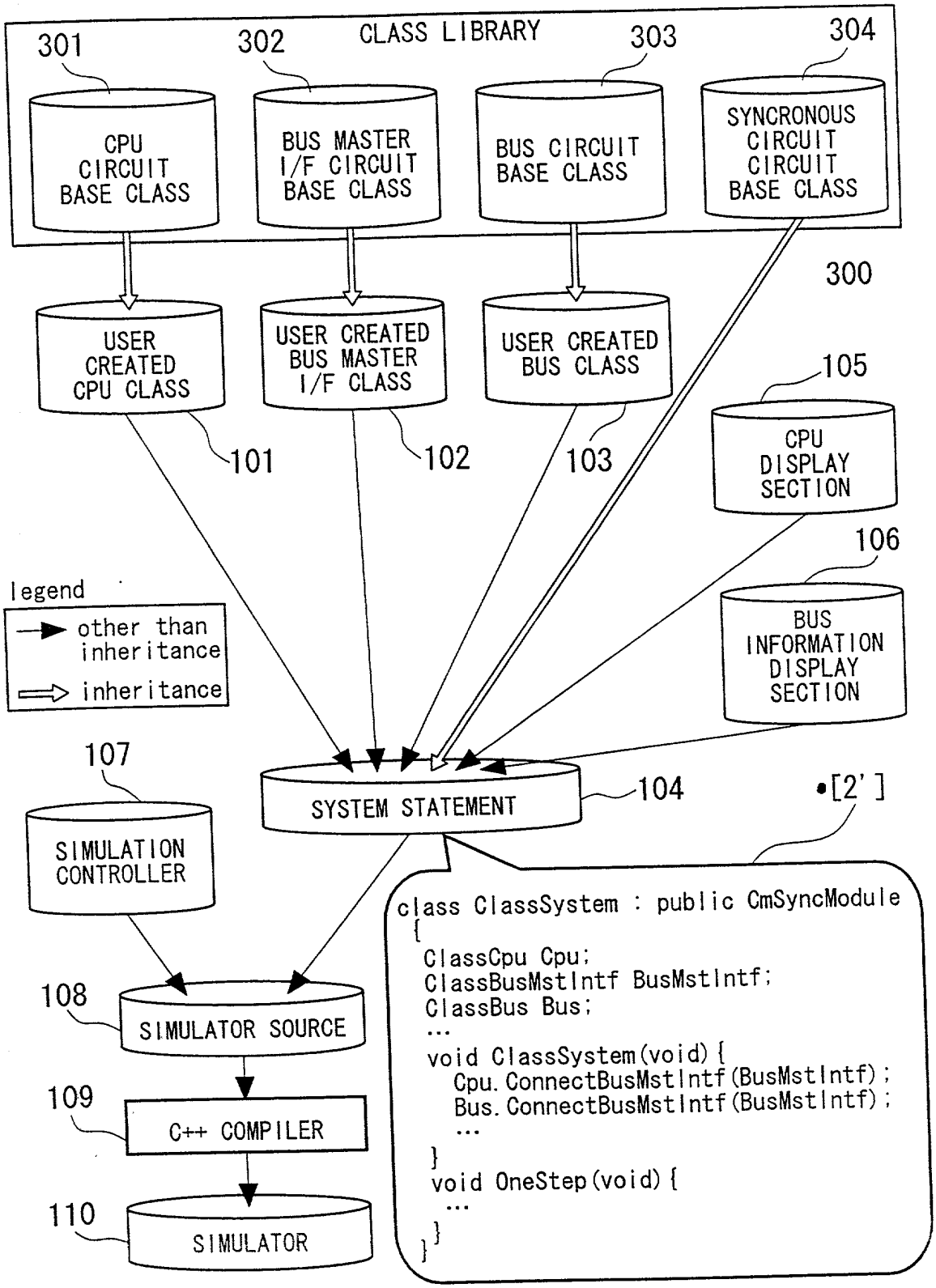

CLASS LIBRARY
301
302
303
304
CPU CIRCUIT BASE CLASS
BUS MASTER I/F CIRCUIT BASE CLASS
BUS CIRCUIT BASE CLASS
SYNCRONOUS CIRCUIT CIRCUIT BASE CLASS
300
USER CREATED CPU CLASS
USER CREATED BUS MASTER I/F CLASS
USER CREATED BUS CLASS
105
CPU DISPLAY SECTION
101
102
103
106
BUS INFORMATION DISPLAY SECTION
legend
other than inheritance
inheritance
107
SYSTEM STATEMENT
104
•[2']
SIMULATION CONTROLLER
class ClassSystem : public CmSyncModule
{
ClassCpu Cpu;
ClassBusMstIntf BusMstIntf;
ClassBus Bus;
...
void ClassSystem(void){
Cpu.ConnectBusMstIntf(BusMstIntf);
Bus.ConnectBusMstIntf(BusMstIntf);
...
}
void OneStep(void){
...
}
}
108
SIMULATOR SOURCE
109
C++ COMPILER
110
SIMULATOR

FIG. 6

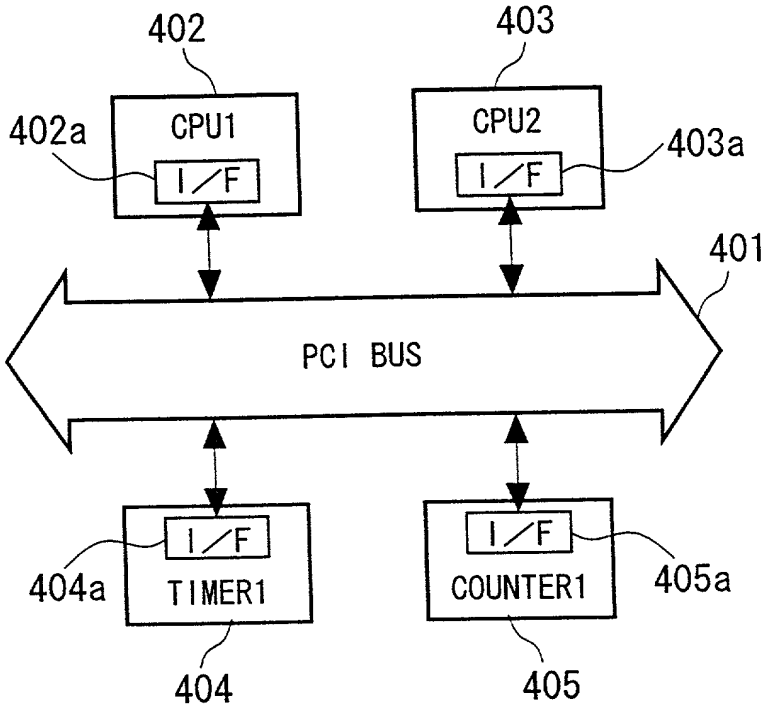

402
403
CPU1
CPU2
I/F
I/F
402a
403a
401
PCI BUS
I/F
I/F
TIMER1
COUNTER1
404a
405a
404
405

FIG. 7

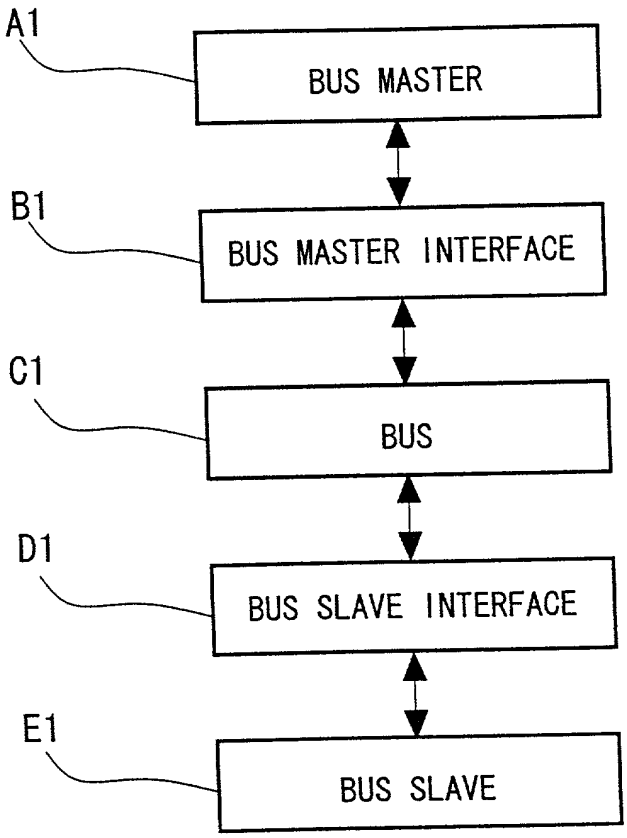


FIG. 8

ADDRESS	DATA	NUMBER OF BYTES
0x00100000	0x00112233	4
0x00100004	0x44556677	4

FIG. 9

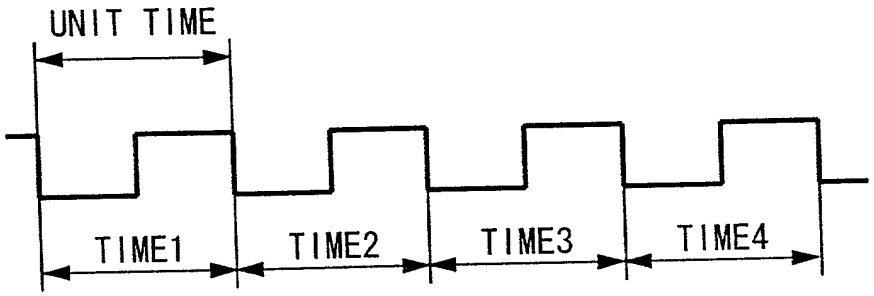


FIG. 10

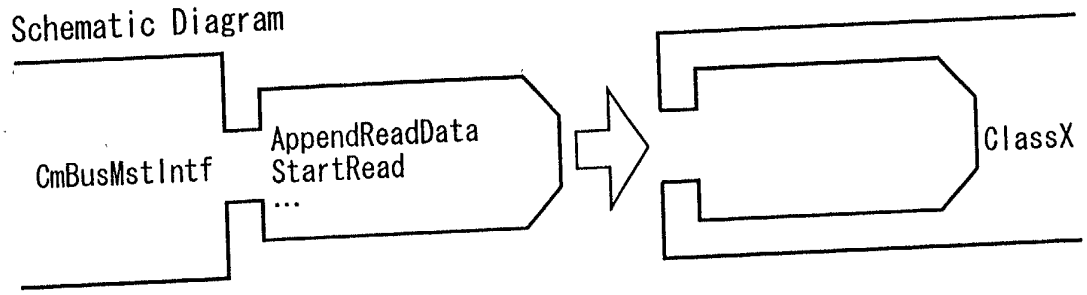

Schematic Diagram
CmBusMstIntf
AppendReadData
StartRead
...
ClassX

FIG. 11

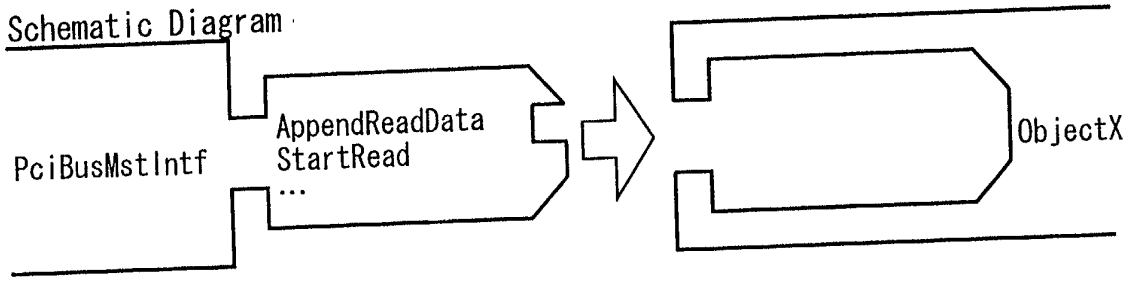

Schematic Diagram
PciBusMstIntf
AppendReadData
StartRead
...
ObjectX

FIG. 12

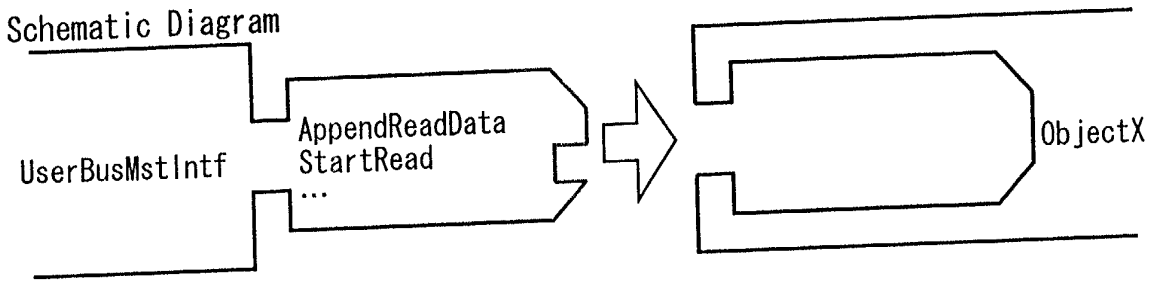
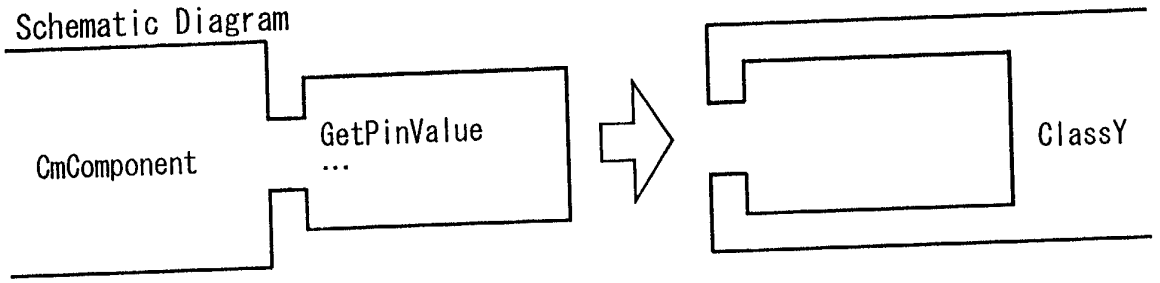

Schematic Diagram
UserBusMstIntf
AppendReadData
StartRead
...
ObjectX

FIG. 13


Schematic Diagram
CmComponent
GetPinValue
...
ClassY

JP2020-87260

FIG. 14

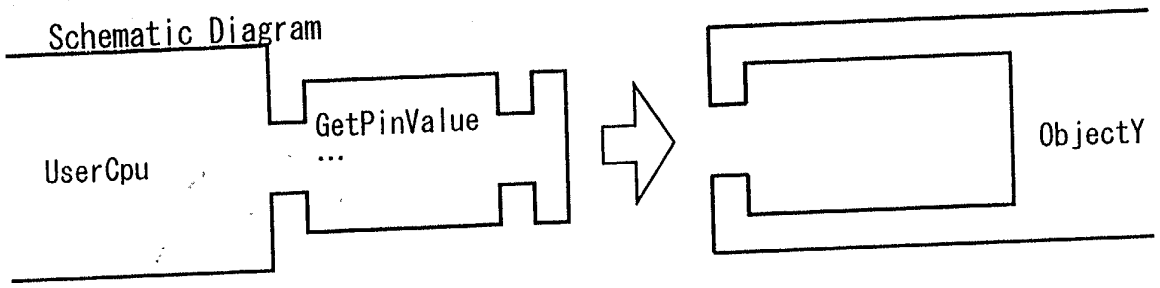
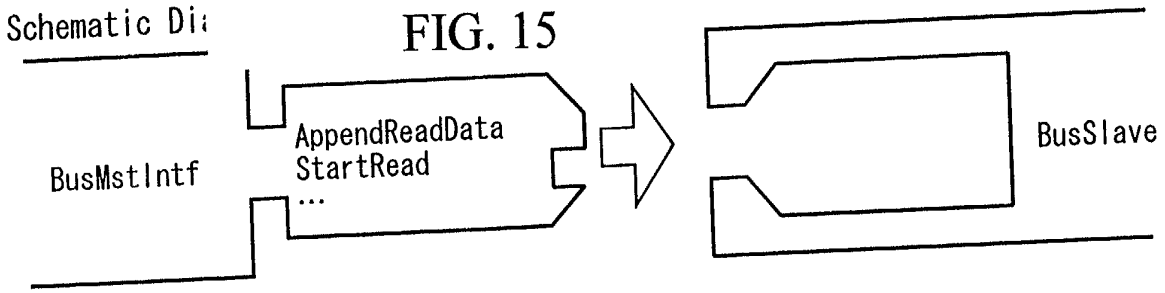



FIG. 15